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INFODATA

NUCLEAR POWER FACTS AND FIGURES

July 1987

STATUS OF U.S. NUCLEAR POWER PLANTS JUNE 15, 1987

108 reactors operable*	95,836 MWe
16 reactors with construction permits	18,972 MWe
2 reactors on order	2,240 MWe
126 commitments	117,048 MWe

*Includes 99 reactors (86,363 MWe) in commercial operation;
4 reactors with full power operating licenses, not yet commercial (Fermi 2 — 1100 MWe, Perry 1 — 1205 MWe, Byron 2 — 1120 MWe, Clinton 1 — 933 MWe);
5 reactors with low power operating licenses (Shoreham — 809 MWe, Nine Mile Point Two — 1080 MWe, Palo Verde 3 — 1270 MWe, Braidwood 1 — 1120 MWe, Beaver Valley 2 — 836 MWe).

STATUS OF NUCLEAR POWER PLANTS OUTSIDE THE U.S. JANUARY 1, 1987

285 reactors operable	179,978 MWe
131 reactors under construction	110,293 MWe
9 reactors on order	8,820 MWe
165 reactors planned	148,500 MWe
590 commitments	447,591 MWe

U.S. NUCLEAR MILESTONES 1986

In 1986, commercial nuclear plants produced 16.6% of total U.S. electrical output.

U.S. nuclear plants achieved approximately 1,030 cumulative reactor-years of operating experience. About 4,210 reactor-years accumulated worldwide.

During 1986, 7 reactors went into commercial operation and 7 received initial operating licenses.

NUCLEAR GENERATION AND FOSSIL FUEL EQUIVALENTS

In 1986, U.S. nuclear energy generated over 414 billion kilowatt hours. This production at fossil-fired plants would require burning more than 200 million short tons of coal, 700 million barrels of oil or 4 trillion cubic feet of natural gas.

MANUFACTURERS OF U.S. OPERATING REACTORS

Reactor manufacturer by type:

Westinghouse Electric Corporation — 46 Pressurized Water Reactors	46
General Electric Company — 37 Boiling Water Reactors, 1 Graphite Reactor	38
Combustion Engineering, Inc. — 15 Pressurized Water Reactors	15
Babcock & Wilcox Company — 8 Pressurized Water Reactors	8
General Atomic Company — 1 High Temperature Gas-Cooled Reactor	1
	108 units

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U.S. ENERGY *PRODUCTION* BY SOURCE, 1950-1986
[Quadrillion (10^{15}) Btu]

Year	Nuclear Quads	Nuclear % of Total	Coal Quads	Coal % of Total	Petroleum[1] Quads	Petroleum[1] % of Total	Natural Gas (Dry) Quads	Natural Gas (Dry) % of Total	Hydro Quads	Hydro % of Total	Other[2] Quads	Other[2] % of Total	Total[3] Energy Production, Quads	Percent[4] Change from Previous Year
1950	0	0	14.1	42.9	12.3	36.2	6.2	18.2	1.4	4.1	[5]	[6]	34.0	12.6
1951	0	0	14.4	38.7	14.0	37.6	7.4	19.9	1.4	3.8	[5]	[6]	37.2	9.5
1952	0	0	12.7	34.8	14.3	39.2	8.0	21.9	1.5	4.1	[5]	[6]	36.5	-2.1
1953	0	0	12.3	33.4	14.7	39.9	8.3	22.6	1.4	3.8	[5]	[6]	36.8	0.9
1954	0	0	10.5	29.9	14.5	41.3	8.7	24.8	1.4	4.0	[5]	[6]	35.1	-4.5
1955	0	0	12.4	32.0	15.7	40.6	9.3	24.0	1.4	3.6	[5]	[6]	38.7	10.2
1956	0	0	13.3	32.3	16.5	40.0	10.0	24.2	1.4	3.4	[5]	[6]	41.2	6.4
1957	0	0	13.1	31.4	16.5	39.6	10.6	25.4	1.5	3.6	[5]	[6]	41.7	1.1
1958	[5]	[6]	10.8	27.8	15.5	39.9	10.9	28.1	1.6	4.1	[5]	[6]	38.8	-6.8
1959	[5]	[6]	10.8	26.6	16.2	39.9	12.0	29.6	1.6	3.9	[5]	[6]	40.6	4.6
1960	0.01	[6]	10.8	26.0	16.4	39.5	12.7	30.6	1.6	3.9	[5]	[6]	41.5	2.2
1961	0.02	0.05	10.5	25.0	16.8	40.0	13.1	31.2	1.7	4.0	[5]	[6]	42.0	1.2
1962	0.03	0.1	10.9	25.0	17.1	39.2	13.7	31.4	1.8	4.1	[5]	[6]	43.6	3.8
1963	0.04	0.1	11.9	27.2	17.7	38.6	14.5	31.6	1.8	3.9	[5]	[6]	45.9	5.2
1964	0.04	0.1	12.5	26.2	18.0	37.7	15.3	32.1	1.9	4.0	[5]	[6]	47.7	4.1
1965	0.04	0.1	13.1	26.6	18.4	37.3	15.8	32.0	2.1	4.3	[5]	[6]	49.3	3.4
1966	0.06	0.1	13.5	25.9	19.6	37.6	17.0	32.6	2.1	4.0	[5]	[6]	52.1	5.7
1967	0.09	0.2	13.8	25.1	20.8	37.8	17.9	32.5	2.4	4.4	0.01	[6]	55.0	5.5
1968	0.14	0.2	13.6	23.9	21.6	38.0	19.1	33.6	2.4	4.2	0.01	[6]	56.8	3.2
1969	0.15	0.3	13.9	23.5	22.0	37.2	20.5	34.7	2.7	4.6	0.01	[6]	59.1	4.0
1970	0.24	0.4	14.6	23.5	22.9	36.9	21.7	34.9	2.6	4.2	0.01	[6]	62.1	5.0
1971	0.41	0.7	13.2	21.5	22.6	36.9	22.3	36.4	2.8	4.6	0.01	[6]	61.3	-1.3
1972	0.58	0.9	14.1	22.6	22.6	36.2	22.2	35.6	2.9	4.6	0.03	0.1	62.4	1.8
1973	0.91	1.5	14.0	22.5	22.1	35.5	22.2	35.7	2.9	4.7	0.05	0.1	62.2	-0.3
1974	1.27	2.1	14.1	23.1	21.0	34.5	21.2	34.9	3.2	5.2	0.06	0.1	60.8	-2.3
1975	1.90	3.2	15.0	25.0	20.1	33.6	19.6	32.8	3.2	5.3	0.07	0.1	59.9	-1.6
1976	2.11	3.5	15.7	26.1	19.6	32.7	19.5	32.6	3.0	5.0	0.08	0.1	59.9	0.1
1977	2.70	4.5	15.8	26.2	19.8	32.9	19.6	32.5	2.3	3.9	0.08	0.1	60.2	0.5
1978	3.02	4.9	14.9	24.4	20.7	33.9	19.5	31.9	2.9	4.8	0.07	0.1	61.1	1.5
1979	2.78	4.4	17.5	27.5	20.4	32.0	20.1	31.5	2.9	4.6	0.09	0.1	63.8	4.4
1980	2.74	4.2	18.6	28.7	20.5	31.7	19.9	30.7	2.9	4.5	0.11	0.2	64.8	1.5
1981	3.00	4.6	18.4	28.5	20.5	31.7	19.7	30.5	2.8	4.3	0.13	0.3	64.6	-0.3
1982	3.13	4.9	18.6	29.1	20.5	32.0	18.3	28.6	3.3	5.2	0.11	0.2	64.0	-0.9
1983	3.20	5.2	17.3	28.2	20.6	33.7	16.5	27.0	3.5	5.7	0.13	0.2	61.2	-4.4
1984	3.55	5.4	19.7	30.0	21.1	32.1	17.9	27.2	3.3	5.2	0.17	0.3	65.7	7.4
1985	4.15	6.4	19.3	29.8	21.2	32.8	16.9	26.1	2.9	4.6	0.21	0.3	64.7	-1.5
1986	4.48	7.0	19.5	30.4	20.5	31.9	16.5	25.7	3.0	4.8	0.23	0.4	64.2	-0.8

[1]Includes crude oil, lease condensate and natural gas plant liquids.
[2]Includes electricity generated from geothermal, wood, waste, wind, photovoltaic and solar thermal energy.
[3]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
[4]Percent change calculated from data prior to rounding.
[5]Less than 0.005 quadrillion Btu.
[6]Less than 0.05 percent.

Note: Numbers may not add to totals because of independent rounding.

Source: U.S. Department of Energy, Energy Information Administration; 1950 to 1972 — *1985 Annual Energy Review*, DOE/EIA-0384 (85), May 1986, p. 7; 1973-1986 — *Monthly Energy Review*, DOE/EIA-0035 (86/12), December 1986, p. 9.

U.S. ENERGY *CONSUMPTION* BY SOURCE, 1950-1986
[Quadrillion (10^{15}) Btu]

Year	Nuclear Quads	Nuclear % of Total	Coal[1] Quads	Coal[1] % of Total	Petroleum[2] Quads	Petroleum[2] % of Total	Natural Gas (Dry) Quads	Natural Gas (Dry) % of Total	Hydro Quads	Hydro % of Total	Other[3] Quads	Other[3] % of Total	Total[4] Energy Consumption, Quads	Percent[5] Change from Previous Year
1950	0	0	12.4	37.5	13.3	40.2	6.0	18.1	1.4	4.2	([6])	([7])	33.1	8.6
1951	0	0	12.6	35.5	14.4	40.6	7.1	20.0	1.5	4.2	([6])	([7])	35.5	7.2
1952	0	0	11.3	32.0	15.0	42.0	7.6	21.5	1.5	4.2	([6])	([7])	35.3	-0.8
1953	0	0	11.4	31.4	15.6	43.0	7.9	21.8	1.4	3.9	([6])	([7])	36.3	2.7
1954	0	0	9.7	27.5	15.8	44.8	8.3	23.5	1.4	3.9	([6])	([7])	35.3	-2.8
1955	0	0	11.1	28.6	17.3	44.6	9.0	23.2	1.4	3.6	([6])	([7])	38.8	10.1
1956	0	0	11.4	28.2	17.9	44.3	9.6	23.8	1.5	3.7	([6])	([7])	40.4	4.0
1957	0	0	10.8	26.7	17.9	44.2	10.2	25.2	1.6	4.0	0	0	40.5	0.3
1958	([6])	([7])	9.5	23.5	18.5	45.8	10.7	26.5	1.6	4.0	0	0	40.4	-0.4
1959	([6])	([7])	9.5	22.6	19.3	45.8	11.7	27.8	1.6	3.8	0	0	42.1	4.4
1960	0.01	([7])	9.8	22.4	19.9	45.4	12.4	28.3	1.7	3.9	([6])	([7])	43.8	3.2
1961	0.02	0.1	9.6	21.6	20.2	45.4	12.9	29.0	1.7	3.8	([6])	([7])	44.5	1.5
1962	0.03	0.1	9.9	21.3	21.1	45.4	13.7	29.5	1.8	3.9	([6])	([7])	46.5	4.7
1963	0.04	0.1	10.4	21.5	21.7	45.0	14.4	29.8	1.8	3.7	([6])	([7])	48.3	3.9
1964	0.04	0.1	11.0	21.8	22.3	44.2	15.3	30.3	1.9	3.8	([6])	([7])	50.5	4.5
1965	0.04	0.1	11.6	22.0	23.3	44.2	15.8	30.0	2.1	4.0	([6])	([7])	52.7	4.3
1966	0.06	0.1	12.1	21.7	24.4	43.8	17.0	30.5	2.1	3.8	([6])	([7])	55.7	5.6
1967	0.09	0.2	11.9	20.7	25.3	44.0	17.9	31.1	2.3	4.0	0.01	([7])	57.6	3.4
1968	0.14	0.2	12.3	20.2	27.0	44.3	19.2	31.5	2.3	3.8	0.01	([7])	61.0	6.0
1969	0.15	0.2	12.4	19.3	28.3	44.1	20.7	32.2	2.7	4.2	0.01	([7])	64.2	5.2
1970	0.24	0.4	12.3	18.5	29.5	44.4	21.8	32.8	2.7	4.1	0.01	([7])	66.4	3.5
1971	0.41	0.6	11.6	17.1	30.6	45.1	22.5	33.1	2.9	4.3	0.01	([7])	67.9	2.2
1972	0.58	0.8	12.1	17.0	33.0	46.3	22.7	31.4	2.9	4.1	0.03	([7])	71.3	5.0
1973	0.91	1.2	13.0	17.5	34.8	46.9	22.5	30.3	3.0	4.0	0.04	0.1	74.3	4.4
1974	1.27	1.8	12.7	17.5	33.5	46.2	21.7	29.9	3.3	4.6	0.11	0.2	72.5	-2.4
1975	1.90	2.7	12.7	18.1	32.7	46.4	19.9	28.2	3.2	4.6	0.09	0.1	70.6	-2.6
1976	2.11	2.8	13.6	18.3	35.2	47.3	20.3	27.4	3.1	4.1	0.08	0.1	74.4	5.4
1977	2.70	3.5	13.9	18.3	37.1	48.7	19.9	26.1	2.5	3.3	0.10	0.1	76.3	2.6
1978	3.02	3.9	13.8	17.6	38.0	48.6	20.0	25.6	3.1	4.0	0.19	0.2	78.1	2.4
1979	2.78	3.5	15.0	19.1	37.1	47.1	20.7	26.2	3.1	4.0	0.15	0.2	78.9	1.0
1980	2.74	3.6	15.4	20.3	34.2	45.0	20.4	26.8	3.1	4.1	0.08	0.1	76.0	-3.7
1981	3.01	4.1	15.9	21.5	31.9	43.1	19.9	26.9	3.1	4.2	0.11	0.2	74.0	-2.6
1982	3.13	4.4	15.3	21.6	30.2	42.7	18.5	26.1	3.6	5.0	0.09	0.1	70.8	-4.3
1983	3.20	4.5	15.9	22.5	30.1	42.6	17.4	24.6	3.9	5.5	0.12	0.2	70.5	-0.5
1984	3.55	4.8	17.1	23.0	31.1	42.1	18.5	25.0	3.7	5.0	0.16	0.2	74.1	4.6
1985	4.15	5.6	17.5	23.6	30.9	41.8	17.9	24.2	3.4	4.6	0.20	0.3	74.0	-0.1
1986	4.48	6.1	17.3	23.4	31.9	43.2	16.5	22.3	3.5	4.7	0.22	0.3	73.9	-0.1

[1]Includes net imports of coke.
[2]Includes natural gas plant liquids and crude oil burned as fuel.
[3]Includes geothermal, wood and waste.
[4]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
[5]Percent change calculated from data prior to rounding.
[6]Less than 0.005 quadrillion Btu.
[7]Less than 0.05 percent.

Note: Numbers may not add to totals because of independent rounding.

Source: U.S. Department of Energy, Energy Information Administration; 1950 to 1972 — *1985 Annual Energy Review*, DOE/EIA-0384 (85), May 1985, p. 9; 1973-1986 — *Monthly Energy Review*, DOE/EIA-0035 (86/12), December 1986, p. 11.

U.S. ELECTRICAL GENERATING *CAPACITY* BY PRIME MOVER, 1950-1985

(Net summer capability in thousands of megawatts)

End of Year	Nuclear Power MWe	Nuclear Power % of Total	Conventional Steam[1] MWe	Conventional Steam[1] % of Total	Internal Combustion MWe	Internal Combustion % of Total	Gas Turbine MWe	Gas Turbine % of Total	Hydropower MWe	Hydropower % of Total	Geothermal and Other MWe	Geothermal and Other % of Total	Total Installed Capacity, MWe	Percent Increase over Previous Year
1950	0	0	48.2	69.7	1.8	2.6	0	0	19.2	27.7	0	0	69.2	9.1
1951	0	0	53.1	70.3	1.9	2.5	0	0	20.5	27.2	0	0	75.5	9.1
1952	0	0	58.8	70.7	2.0	2.4	0	0	22.4	26.9	0	0	83.2	10.2
1953	0	0	67.5	72.3	2.1	2.3	0	0	23.8	25.5	0	0	93.3	12.0
1954	0	0	75.4	75.4	2.2	2.2	0	0	22.5	22.5	0	0	100.0	7.2
1955	0	0	84.6	74.1	2.3	2.0	0	0	27.4	24.0	0	0	114.2	14.2
1956	0	0	88.8	74.2	2.4	2.0	0	0	28.5	23.8	0	0	119.7	4.8
1957	0.1	0.1	97.9	74.7	2.3	1.8	0	0	30.7	23.4	0	0	131.1	9.5
1958	0.1	0.1	108.2	75.5	2.4	1.7	0	0	32.5	22.7	0	0	143.3	9.3
1959	0.1	0.1	118.5	76.0	2.5	1.6	0	0	34.8	22.3	0	0	155.9	8.8
1960	0.4	0.2	128.3	76.8	2.6	1.6	0	0	35.8	21.4	(2)	(3)	167.1	7.2
1961	0.4	0.2	135.1	75.5	2.8	1.6	0	0	40.7	22.7	(2)	(3)	179.0	7.1
1962	0.7	0.4	144.6	75.3	2.8	1.5	0	0	44.0	22.9	(2)	(3)	192.1	7.3
1963	0.8	0.4	158.4	75.5	3.0	1.4	0.5	0.2	47.0	22.4	(2)	(3)	209.7	9.2
1964	0.8	0.4	169.6	75.8	3.1	1.4	0.8	0.4	49.4	22.1	(2)	(3)	223.7	6.7
1965	0.8	0.3	178.7	76.1	3.2	1.4	1.1	0.5	51.0	21.7	(2)	(3)	234.8	5.0
1966	1.7	0.7	189.6	76.6	3.3	1.3	1.6	0.6	51.2	20.7	(2)	(3)	247.5	5.4
1967	2.7	1.0	212.5	75.9	3.6	1.3	2.8	1.0	55.0	20.6	0.1	(3)	266.7	7.8
1968	2.7	1.0	214.3	75.5	3.8	1.3	5.3	1.9	57.9	20.4	0.1	(3)	284.0	6.5
1969	4.4	1.4	231.4	74.7	4.0	1.3	8.4	2.7	61.6	19.9	0.1	(3)	309.8	9.1
1970	7.0	2.1	248.0	73.7	4.1	1.2	13.3	4.0	63.8	19.0	0.1	(3)	336.4	8.6
1971	9.0	2.5	266.0	72.6	4.2	1.1	17.9	4.9	69.1	18.9	0.2	0.1	366.4	8.9
1972	14.5	3.7	282.3	71.3	4.5	1.1	23.9	6.0	70.5	17.8	0.3	0.1	396.0	8.1
1973	22.6	5.1	317.9	70.0	4.7	1.1	28.8	6.5	75.4	17.1	0.4	0.1	439.8	11.1
1974	31.8	6.8	322.4	68.8	4.7	1.0	33.7	7.2	75.5	16.1	0.4	0.1	468.5	6.5
1975	37.2	7.6	333.3	67.8	4.8	1.0	37.1	7.6	78.4	16.0	0.5	0.1	491.3	4.9
1976	43.7	8.4	350.9	67.8	5.0	1.0	39.1	7.6	78.0	15.1	0.5	0.1	517.2	5.3
1977	46.2	8.6	365.3	68.2	5.0	0.9	40.3	7.5	78.6	14.7	0.5	0.1	535.9	3.6
1978	50.7	9.2	374.5	67.8	5.2	0.9	41.2	7.5	79.9	14.5	0.5	0.1	552.1	3.0
1979	49.6	8.8	384.6	68.0	5.2	0.9	42.5	7.5	82.9	14.7	0.7	0.1	565.5	2.4
1980	51.7	8.9	396.6	68.5	5.2	0.9	42.5	7.3	81.7	14.1	0.9	0.2	578.6	2.3
1981	55.9	9.3	410.7	68.6	5.3	0.9	43.2	7.2	82.4	13.8	0.9	0.2	598.3	3.4
1982	59.9	9.8	421.4	68.7	4.8	0.8	43.5	7.1	83.0	13.5	1.1	0.2	613.7	2.6
1983	63.0	10.1	424.9	68.4	4.7	0.8	43.3	7.0	83.9	13.5	1.2	0.2	621.1	1.2
1984	69.7	11.0	430.8	67.8	4.5	0.7	43.5	6.8	85.3	13.4	1.3	0.2	635.1	2.3
1985[4]	79.5	12.2	435.0	66.5	4.7	0.7	43.2	6.6	89.9	13.7	1.6	0.2	654.0	3.0

Net summer capability is the load carrying ability of a generator under summer (adverse) conditions.

[1]Includes fossil steam, wood, and waste.
[2]Less than 0.05 thousand megawatts.
[3]Less than 0.05 percent.
[4]Preliminary.

Note: Numbers may not add to totals because of independent rounding.

Source: U.S. Department of Energy, Energy Information Administration, *1985 Annual Energy Review*, DOE/EIA-0384 (85), May 1986, p. 195.

U.S. ELECTRICAL *GENERATION* BY SOURCE, 1950-1986
(Billion kilowatt-hours)

Year	Nuclear kwh	Nuclear % of Total	Coal kwh	Coal % of Total	Oil kwh	Oil % of Total	Gas kwh	Gas % of Total	Hydro kwh	Hydro % of Total	Geothermal and Other[1] kwh	Geothermal and Other[1] % of Total	Total Electric Generation kwh	Percent Increase over Previous Year
1950	0	0	155	47.1	34	10.3	45	13.7	96	29.2	[2]	[3]	329	13.1
1951	0	0	185	49.9	29	7.8	57	15.4	100	27.0	[2]	[3]	371	12.8
1952	0	0	195	48.9	30	7.5	68	17.0	105	26.3	[2]	[3]	399	7.6
1953	0	0	219	49.4	38	8.6	80	18.1	105	23.7	[2]	[3]	443	11.0
1954	0	0	239	50.6	32	6.8	94	19.9	107	22.7	[2]	[3]	472	6.5
1955	0	0	301	55.0	37	6.8	95	17.4	113	20.7	[2]	[3]	547	15.9
1956	0	0	339	56.4	36	6.0	104	17.3	122	20.3	[2]	[3]	601	9.9
1957	[2]	[3]	346	54.8	40	6.4	114	18.1	130	20.6	[2]	[3]	632	5.2
1958	[2]	[3]	344	53.4	40	6.2	120	18.6	140	21.7	[2]	[3]	645	2.1
1959	[2]	[3]	378	53.2	47	6.6	147	20.7	138	19.4	[2]	[3]	710	10.1
1960	1	0.1	403	53.3	48	6.3	158	20.9	146	19.3	[2]	[3]	756	6.5
1961	2	0.3	422	53.1	49	6.2	169	21.3	152	19.1	[2]	[3]	794	5.0
1962	2	0.2	450	52.6	49	5.7	184	21.5	169	19.8	[2]	[3]	855	7.7
1963	3	0.3	494	53.9	52	5.7	202	22.0	166	18.1	[2]	[3]	917	7.5
1964	3	0.3	526	53.5	57	5.8	220	22.4	177	18.0	[2]	[3]	984	7.3
1965	4	0.4	571	54.1	65	6.1	222	21.0	194	18.4	[2]	[3]	1,055	7.2
1966	6	0.5	613	53.6	79	6.9	251	21.9	195	17.0	1	0.1	1,144	8.4
1967	8	0.6	630	51.9	89	7.3	265	21.8	222	18.3	1	0.1	1,214	6.1
1968	13	1.0	685	51.5	104	7.8	304	22.9	222	16.7	1	0.1	1,329	9.5
1969	14	1.0	706	48.9	138	9.6	333	23.1	250	17.3	1	0.1	1,442	8.5
1970	22	1.4	704	46.0	184	12.0	373	24.3	248	16.2	1	0.1	1,532	6.2
1971	38	2.4	713	44.2	220	13.6	374	23.2	266	16.5	1	0.1	1,613	5.3
1972	54	3.1	771	44.1	274	15.6	376	21.5	273	15.6	2	0.1	1,750	8.5
1973	83	4.5	848	45.6	314	16.9	341	18.3	272	14.6	2	0.1	1,861	6.3
1974	114	6.1	828	44.4	301	16.1	320	17.1	301	16.1	3	0.2	1,867	0.3
1975	173	9.0	853	44.5	289	15.1	300	15.6	300	15.6	3	0.2	1,918	2.7
1976	191	9.4	944	46.3	320	15.7	295	14.5	284	13.9	4	0.2	2,038	6.3
1977	251	11.8	985	46.4	358	16.8	306	14.4	220	10.4	4	0.2	2,124	4.2
1978	276	12.5	976	44.2	365	16.6	305	13.8	280	12.7	3	0.2	2,206	3.9
1979	255	11.4	1,075	47.8	304	13.5	329	14.7	280	12.4	4	0.2	2,247	1.9
1980	251	11.0	1,162	50.8	246	10.8	346	15.1	276	12.1	6	0.2	2,286	1.7
1981	273	11.9	1,203	52.4	206	9.0	346	15.1	261	11.4	6	0.2	2,295	0.4
1982	283	12.6	1,192	53.2	147	6.6	305	13.6	309	13.8	5	0.2	2,241	−2.4
1983	294	12.7	1,259	54.5	144	6.2	274	11.9	332	14.4	7	0.3	2,310	3.1
1984	328	13.6	1,342	55.5	120	5.0	297	12.3	321	13.3	9	0.3	2,416	4.6
1985	384	15.5	1,402	56.8	100	4.1	292	11.8	281	11.4	11	0.4	2,470	2.2
1986	414	16.6	1,388	55.8	137	5.5	248	10.0	291	11.7	12	0.5	2,489	0.8

[1]Includes geothermal, wood, waste, wind, and solar energy.
[2]Less than 0.5 billion kilowatt-hours.
[3]Less than 0.05 percent.

Note: Numbers may not add to totals because of independent rounding.

Source: U.S. Department of Energy, Energy Information Administration; 1950 to 1972 — *1985 Annual Energy Review*, DOE/EIA-0384 (85), May 1986, p. 185; 1973-1985 — *Monthly Energy Review*, DOE/EIA-0035 (86/12), December 1986, p. 82.

NUCLEAR ELECTRICAL CAPACITY AND GENERATION AND SHARE OF TOTAL ENERGY PRODUCTION

Year	Capacity		Generation		Energy Production	
	Thousand MWe	% of Total	Billion kwh	% of Total	Nuclear Quads[1]	% of Total Energy
1957	0.1	0.1	[2]	[3]	0	0
1958	0.1	0.1	[2]	[3]	[4]	[3]
1959	0.1	0.1	[2]	[3]	[4]	[3]
1960	0.4	0.2	1	0.1	[4]	[3]
1961	0.4	0.2	2	0.3	[4]	0.1
1962	0.7	0.4	2	0.2	[4]	0.1
1963	0.8	0.4	3	0.3	[4]	0.1
1964	0.8	0.4	3	0.3	[4]	0.1
1965	0.8	0.3	4	0.4	[4]	0.1
1966	1.7	0.7	6	0.5	0.1	0.1
1967	2.7	1.0	8	0.6	0.1	0.2
1968	2.7	1.0	13	1.0	0.1	0.2
1969	4.4	1.4	14	1.0	0.2	0.3
1970	7.0	2.1	22	1.4	0.2	0.4
1971	9.0	2.5	38	2.4	0.4	0.7
1972	14.5	3.7	54	3.1	0.6	0.9
1973	22.6	5.1	83	4.5	0.9	1.5
1974	31.8	6.8	114	6.1	1.3	2.1
1975	37.2	7.6	173	9.0	1.9	3.2
1976	43.7	8.4	191	9.4	2.1	3.5
1977	46.2	8.6	251	11.8	2.7	4.5
1978	50.7	9.2	276	12.5	3.0	4.9
1979	49.6	8.8	255	11.4	2.8	4.4
1980	51.7	8.9	251	11.0	2.7	4.2
1981	55.9	9.3	273	11.9	3.0	4.6
1982	59.9	9.8	283	12.6	3.1	4.9
1983	63.0	10.1	294	12.7	3.2	5.2
1984	69.7	11.0	328	13.6	3.5	5.4
1985	79.5	12.2	384	15.5	4.2	6.4
1986	85.2	12.9	414	16.6	4.5	7.0
1990	105.1	15.3	547	19.8	6.0	9.1
1995	106.5	14.9	586	18.3	6.4	9.6

[1]One quad equals quadrillion (10^{15}) Btu.
[2]Less than 0.5 billion kilowatt-hours.
[3]Less than 0.05 percent.
[4]Less than 0.05 quads.

Note: Projections are based on DOE's Scenario A, a reference/mid case.

Capacity figures are net summer capability, the load carrying ability of a generator under summer (adverse) conditions.

Source: U.S. Department of Energy, Energy Information Administration, Office of Energy Markets and End Use; *1985 Annual Energy Review*, DOE/EIA-0384 (85), May 1986, pp. 7, 185, 195; *Monthly Energy Review*, DOE/EIA-0035 (86/12), December 1986, pp. 9 and 82, *Annual Energy Outlook 1986*, DOE/EIA-0383 (86), February 1987, pp. 31 and 35.

STATE AND REGIONAL ELECTRICAL GENERATION BY NUCLEAR POWER, 1986

Ranking by Percent	*State*	Nuclear Generation (million kwh)	Nuclear as Percent of *State* Total kwh
1	Vermont	2,058	65.4
2	South Carolina	35,625	63.2
3	Connecticut	18,667	58.0
4	Maine	6,242	57.3
5	New Jersey	14,770	51.6
6	Virginia	21,215	49.7
7	Nebraska	7,658	40.6
8	Illinois	42,614	39.9
9	Minnesota	11,052	38.9
10	Maryland	12,830	34.0
11	Pennsylvania	39,820	27.0
12	North Carolina	20,286	26.4
13	Wisconsin	11,199	26.2
14	Arkansas	8,876	25.3
15	Kansas	6,959	23.6
16	Mississippi	4,087	21.7
17	California	26,215	21.5
18	Florida	22,036	20.3
19	Louisiana	10,644	20.2
20	New York	22,084	19.8
21	Arizona	9,976	19.5
22	Alabama	11,561	16.9
23	Michigan	12,257	16.1
24	Oregon	7,081	14.8
25	Missouri	7,170	13.2
26	Iowa	2,993	12.4
27	Georgia	7,238	9.6
28	Washington	8,439	9.1
29	Massachusetts	2,420	7.0
30	Colorado	52	0.2
31	Ohio	24	*
32	Tennessee	−105	−.2**

Total: 32 states = 414,047 million kwh nuclear

* less than .05 percent.

** electric power consumed for plant use exceeded gross generation.

Ranking by Percent	*Region*	Nuclear Generation (million kwh)	Nuclear as Percent of *Regional* Total kwh
1	New England (CT, ME, MA, NH, RI, VT)	29,388	33.6
2	Middle Atlantic (NJ, NY, PA)	76,675	26.7
3	South Atlantic (DE, DC, WV, FL, GA, MD, NC, SC, VA)	119,231	24.7
4	West North Central (IA, MN, MO, NE, KS, ND, SD)	35,832	19.3
5	East North Central (IL, MI, WI, OH, IN)	66,094	15.9
6	Pacific Contiguous (CA, OR, WA)	41,735	15.9
7	East South Central (AL, MS, TN, KT)	15,544	7.4
8	West South Central (AR, LA, OK, TX)	19,520	5.7
9	Mountain (AZ, CO, ID, MT, NV, NM, UT, WY)	10,028	4.9
10	Pacific Noncontiguous (AK, HI)	0	0.0

Total: 10 regions = 414,047 million kwh nuclear

The above tables indicate the amount of electricity generated by nuclear power only in those states having nuclear generating capability and in all regions of the United States. Data do not necessarily indicate the amount of electricity actually consumed in a state or region since in some instances a portion of the electricity generated by a utility's power plants in one state is sold to and used by customers in another state.

Source: U.S. Department of Energy, Energy Information Administration, *Electric Power Monthly*, DOE/EIA-0226, (86/12), December 1986, p. 16.

PROFILE OF U.S. REACTORS GOING INTO COMMERCIAL OPERATION

	Additions per year[a]		Cumulative	
End of Year	No. of Units	Net MWe	No. of Units	Net MWe
1986	7	7,936	97	83,324
1987	13	14,153	110	97,477
1988	2	2,242	112	99,719
1989	3	3,550	115	103,269
1990	1	1,055	116	104,324
... and beyond[b]	11	12,774	127	117,074

[a]Based on projected commercial operation dates in AIF's *Electricity From Nuclear Power*, January, 1987.
[b]Accounts for two reactors (2,426 MWe) under construction with operating dates beyond 1990; three reactors (3,740) MWe) with construction permits, the operating dates of which have been indefinitely deferred; two reactors (2,240 MWe) on order with definite operating dates; two reactors (2,354 MWe) with dates under review; one reactor (1,205 MWe) with construction reduced to minimum work level and operation date uncertain; and one reactor (809 MWe) with no projected commercial operation date.

AVERAGE LEAD TIME FOR U.S. NUCLEAR POWER PLANTS BY YEAR OF COMMERCIAL OPERATION, 1970-1986

Initial Year of Commercial Operation	No. of Units	Capacity (MWe)	Duration of Activity in Months				Total Lead Time Months/Years
			Pre-Licensing[1]	Licensing[2]	Construction[3]	Fuel Loading and Startup[4]	
1970	3	1,761	3.7	8.3	42.3	5.7	60.0 / 5.0
1971	5	3,504	3.6	8.4	46.0	8.2	66.2 / 5.5
1972	6	3,972	7.7	13.3	49.0	6.7	76.7 / 6.4
1973	8	6,389	2.3	12.1	60.1	9.9	84.4 / 7.0
1974	12	9,999	3.8	12.0	69.2	7.9	92.9 / 7.8
1975	9	7,709	5.9	16.3	61.3	9.9	93.4 / 7.8
1976	3	2,925	6.6	22.0	67.0	7.7	103.3 / 8.6
1977	7	6,310	6.6	19.1	82.7	8.0	116.4 / 9.7
1978	4	3,819	11.2	19.3	89.5	9.8	129.8 / 10.8
1979	2	1,114	12.5	26.0	64.5	41.0	144.0 / 12.0
1980	2	1,819	2.0	25.0	89.5	13.0	129.5 / 10.8
1981	4	4,272	5.2	21.2	112.3	13.8	152.5 / 12.7
1982	1	1,148	6.0	19.0	133.0	12.0	170.0 / 14.2
1983	3	2,949	20.0	39.0	91.7	11.0	161.7 / 13.5
1984	7	7,587	6.6	28.3	113.6	13.4	161.8 / 13.5
1985	7	7,918	13.0	30.4	115.9	17.6	176.9 / 14.7
1986	7	7,936	10.0	30.4	125.1	10.1	175.7 / 14.6

[1]From nuclear steam supply system (NSSS) order to docketing of the construction permit (CP) by NRC.
[2]From CP docketing to CP issuance by NRC.
[3]From CP issuance to issuance of the operating license (OL) by NRC.
[4]From OL issuance to commercial operation.

Source: U.S. Department of Energy, Office of Converter Reactor Deployment, *U.S. Central Station Nuclear Electric Generating Units: Significant Milestones*, DOE/NE-0030/12, May 1985, pp. 3-14; dates of 1985 and 1986 events from *Electricity from Nuclear Power*, Atomic Industrial Forum, January 1987.

U.S. AVERAGE ELECTRICAL GENERATING COSTS AND POWER PLANT PERFORMANCE IN 1985

For units entering commercial service in the years listed[1]

NUCLEAR

Initial Year of Commercial Operation	Number of Units	Generating Capacity (MWe)	Total[2] Generating Cost (¢/kwh)	Capital Cost (¢/kwh)	Fuel Cost (¢/kwh)	O & M Cost (¢/kwh)	Other[3] Cost (¢/kwh)	Capacity[4] Factor (%)	Availability[5] Factor (%)	Forced[6] Outage Rate (%)
1970	4	2,358	3.0	1.3	0.8	0.9	0.0	70.1	75.9	3.6
1971	4	2,706	2.7	1.2	0.7	0.8	0.0	81.0	84.8	6.0
1972	8	5,454	2.7	1.1	0.7	0.8	0.1	76.4	80.4	4.2
1973	7	5,169	2.6	1.1	0.7	0.7	0.1	76.2	80.7	3.2
1974	11	8,720	3.8	1.8	0.8	1.1	0.1	51.2	59.2	11.4
1975	8	6,801	5.1	2.4	0.7	1.9	0.1	41.5	48.5	13.9
1976	4	3,654	3.5	1.8	0.8	0.8	0.1	72.9	78.8	3.8
1977	7	5,838	5.2	2.8	0.8	1.5	0.1	52.7	56.6	26.2
1978	2	1,953	3.2	2.0	0.6	0.6	0.0	67.1	72.4	20.5
1979	1	731	4.2	2.1	0.8	1.3	0.0	82.2	82.7	3.0
1980	2	1,751	2.9	1.8	0.6	0.5	0.0	75.1	81.6	8.8
1981	4	4,079	4.7	2.9	0.8	0.9	0.1	64.5	69.8	15.1
1982	1	1,148	4.3	2.5	0.9	0.8	0.1	56.2	61.1	19.9
1983	3	2,779	8.8	6.7	0.8	1.3	0.0	63.2	68.3	9.7
1984	7	7,403	8.0	6.2	0.6	1.2	0.0	55.3	65.2	14.2
Totals or Weighted Averages, 1985	**73**	**60,547**	**4.3**	**2.5**	**0.7**	**1.0**	**0.1**	**61.7**	**68.4**	**10.7**

COAL

Initial Year of Commercial Operation	Number of Units	Generating Capacity (MWe)	Total[2] Generating Cost (¢/kwh)	Capital Cost (¢/kwh)	Fuel Cost (¢/kwh)	O & M Cost (¢/kwh)	Other[3] Cost (¢/kwh)	Capacity[4] Factor (%)	Availability[5] Factor (%)	Forced[6] Outage Rate (%)
1970	5	2,101	2.9	0.8	1.6	0.5	0.0	66.8	82.2	12.9
1971	11	6,442	3.1	0.9	1.8	0.4	0.0	59.8	72.8	17.7
1972	8	4,971	3.1	0.8	2.0	0.3	0.0	65.6	80.6	8.0
1973	9	7,262	2.7	0.7	1.8	0.2	0.0	61.9	80.0	11.1
1974	5	4,307	3.0	0.7	2.0	0.3	0.0	58.2	76.3	7.2
1975	6	4,619	3.1	0.8	2.0	0.3	0.0	64.2	86.7	4.5
1976	4	2,854	3.1	1.1	1.6	0.4	0.0	65.8	84.5	4.3
1977	3	1,987	3.2	1.2	1.6	0.4	0.0	69.8	94.8	2.5
1978	4	2,209	3.4	1.2	2.0	0.2	0.0	59.7	83.4	5.9
1979	3	1,284	3.4	1.8	1.2	0.4	0.0	45.0	80.2	4.3
1980	6	4,374	4.6	2.2	2.0	0.4	0.0	60.2	90.4	1.4
1981	2	707	4.1	2.0	1.9	0.2	0.0	50.4	87.8	1.3
1982	3	2,041	4.1	1.8	2.1	0.2	0.0	54.1	87.3	1.8
1983	2	1,427	4.5	2.3	2.0	0.2	0.0	68.0	91.5	1.5
1984	6	4,705	5.3	2.8	2.2	0.3	0.0	57.9	87.6	6.1
Totals or Weighted Averages, 1985	**77**	**51,293**	**3.4**	**1.2**	**1.9**	**0.3**	**0.0**	**61.3**	**82.6**	**7.9**

OIL

Initial Year of Commercial Operation	Number of Units	Generating Capacity (MWe)	Total[2] Generating Cost (¢/kwh)	Capital Cost (¢/kwh)	Fuel Cost (¢/kwh)	O & M Cost (¢/kwh)	Other[3] Cost (¢/kwh)	Capacity[4] Factor (%)	Availability[5] Factor (%)	Forced[6] Outage Rate (%)
1970	0	—	—	—	—	—	—	—	—	—
1971	0	—	—	—	—	—	—	—	—	—
1972	0	—	—	—	—	—	—	—	—	—
1973	0	—	—	—	—	—	—	—	—	—
1974	4	1,388	5.9	1.4	4.3	0.2	0.0	29.6	82.0	5.9
1975	1	565	6.0	1.6	4.0	0.4	0.0	57.0	83.0	4.6
1976	1	783	10.2	5.2	4.4	0.6	0.0	8.7	50.4	31.1
1977	2	1,608	7.4	2.0	4.9	0.5	0.0	24.4	88.0	2.8
1978	1	507	5.6	1.3	4.1	0.2	0.0	34.7	92.6	0.8
1979	0	—	—	—	—	—	—	—	—	—
1980	1	783	12.1	7.1	4.5	0.5	0.0	14.2	90.6	16.2
1981	1	783	13.3	8.5	4.3	0.5	0.0	10.6	48.3	1.3
1982	0	—	—	—	—	—	—	—	—	—
1983	0	—	—	—	—	—	—	—	—	—
1984	0	—	—	—	—	—	—	—	—	—
Totals or Weighted Averages, 1985	**11**	**6,417**	**7.3**	**2.5**	**4.4**	**0.4**	**0.0**	**24.4**	**79.0**	**6.0**

FOOTNOTES

[1] Base-load units of 400 MWe or larger capacity, entering commercial operation from 1970 through 1984 and in commercial service during all of 1985. The capacity of all utilities having at least a 10 per cent interest in one or more nuclear units is included.

[2] Total cost includes capital, fuel, operation and maintenance, carrying charges, insurance and taxes as well as costs incurred while any unit was not on line but remained in commercial status during the year. For nuclear units, "total cost" includes present allowances for decommissioning and waste management, where permitted by state regulatory authorities.

[3] Other cost represents generating expenses not recorded by the reporting utilities in capital, fuel or operation and maintenance categories.

[4] Capacity factor is the percentage of electricity produced compared with the amount which could have been produced at continuous full power.

[5] Availability factor is the percentage of time during which the unit was capable of producing power at some level, whether or not it was actually in service.

[6] Forced outage rate is the percentage of time during which the unit was not available to produce power when required for service, due to component or other failure.

U.S. EMPLOYMENT REQUIREMENTS IN THE NUCLEAR POWER INDUSTRY, CURRENT AND PROJECTED

Occupation	Actual Positions 1986[1] On-Site	Off-Site	Total	Projected Positions 1996
Managers & Supervisors	**7,795**	**2,844**	**10,639**	**10,509**
Engineers	**8,095**	**5,998**	**14,093**	**13,564**
Chemical	180	97	277	407
Civil	495	418	913	936
Electrical	922	772	1,694	1,623
Instrument & control	443	394	837	774
Mechanical	1,721	1,149	2,870	2,793
Nuclear & reactor	756	900	1,656	1,748
Quality assurance/control	811	801	1,612	1,489
Radiation protection	191	93	284	286
Other engineers	2,576	1,374	3,950	3,508
Scientists	**668**	**454**	**1,122**	**1,108**
Biologists	48	57	105	110
Chemists	175	79	254	262
Health physicists	313	179	492	486
Other scientists	132	139	271	250
Training Personnel	**2,355**	**618**	**2,973**	**3,129**
SRO/RO licensed/certified instructors	657	124	781	895
Other technical/scientific instructors	947	235	1,182	1,178
Other instructors	400	79	479	514
Support staff	351	180	531	542
Operators	**8,620**	**109**	**8,729**	**8,758**
Shift technical advisors	520	12	532	550
Shift supervisors	1,029	0	1,029	1,051
Senior licensed operators (SRO)	607	3	610	742
Licensed operators (RO)	1,483	0	1,483	1,643
Non-licensed shift operators	3,290	0	3,290	3,358
Other non-licensed operators	387	0	387	395
Trainees for SRO licenses	301	7	308	202
Trainees for RO licenses	586	0	586	348
Trainees for non-licensed positions	417	87	504	469
Technical & Maintenance Personnel	**19,608**	**3,926**	**23,534**	**23,005**
Chemistry technicians	1,350	65	1,415	1,440
Radiation protection technicians	2,835	91	2,926	2,734
Draftsmen	376	798	1,174	1,173
Electricians	2,104	309	2,413	2,355
Instrument & control technicians	3,247	96	3,343	3,361
Mechanics	4,451	831	5,282	5,379
Quality assurance/control technicians	1,300	137	1,437	1,371
Welders with nuclear certification	588	542	1,130	1,139
Other technical & maintenance personnel	3,357	1,057	4,414	4,053
Other Professional Workers	**2,145**	**1,251**	**3,396**	**3,248**
Other Technical Personnel	**2,626**	**671**	**3,297**	**2,803**
Subtotal	**51,912**	**15,871**	**67,783**	**66,124**
All Other Workers[2]	**15,033**	**3,316**	**18,349**	–
Total	**66,945**	**19,187**	**86,132**	–

[1]Total authorized positions as of March 1, 1986.
[2]All other workers include security, clerical and non-skilled positions. Projections are not made for this category.

Note: Employment represents permanent, full-time positions reported by 55 utilities, members of the Institute of Nuclear Power Operations, that operate or are constructing 123 units (93 operating, 26 under construction and 4 on hold) at 77 nuclear power plant sites.

Source: Institute of Nuclear Power Operations, *1986 Survey of Nuclear-related Employment in U.S. Electric Utilities*, INPO86-028, October 1986, pp. 5, 7-11, 16, 17, A-5.

DOMESTIC URANIUM REQUIREMENTS (U_3O_8 Equivalent)

Year	Short tons
1985	18,875
1990	17,875
1995	17,200
2000	19,900

Source: U.S. Department of Energy, *World Nuclear Fuel Cycle Requirements 1986*, DOE/EIA-0436 (86), September, 1986, pg. 11.

This table uses a mid-range interpolated from forecast figures.

U.S. URANIUM RESOURCES as of December 31, 1985 (Short Tons U_3O_8)

Forward Cost	Reasonably Assured Resources	Estimated Additional Resources
< $30/lb U_3O_8	172,500	650,000
$30-$50/lb U_3O_8	363,500	550,000
$50-$100/lb U_3O_8	301,500	700,000
Total	837,500	1,900,000

Source: U.S. Department of Energy, *Uranium Industry Annual 1985*, DOE/EIA-0478 (85), November, 1986, pp. 28 and 33.

DOMESTIC URANIUM (U_3O_8) PRODUCED IN 1985

State	Short Tons	% of Total
Wyoming	1,200	21.2
New Mexico	700	12.4
Texas	1,100	19.5
Others	2,650	46.9
Totals	5,650	100.0

Source: U.S. Department of Energy, *Uranium Industry Annual 1985*, DOE/EIA-0478 (85), November, 1986, pg. 41.

NUCLEAR ELECTRICAL GENERATION IN OECD COUNTRIES [1] CURRENT AND PROJECTED

Country	1986 Billion kwh	1986 % Nuclear	1990 Billion kwh	1990 % Nuclear	1995 Billion kwh	1995 % Nuclear
Belgium	37.1	66.9	37.1	60.6	37.1	53.6
Canada	68.7	15.0	98.2	19.4	115.2	20.8
Finland	18.0	38.3	16.5	31.7	16.5	28.4
France	241.4	69.8	290.0	76.3	340.0	78.1
Germany, FR	113.3	29.6	142.3	35.3	142.3	32.9
Italy	8.4	4.6	8.0[2]	3.7	18.6[2]	7.3
Japan[3]	157.7	24.6	180.0	25.0	270.0	32.1
Netherlands	3.9	5.9	3.5	5.7	3.5[2]	5.4
Spain[2]	35.6	28.9	45.7	32.8	51.8	31.7
Sweden	67.0	50.3	64.0	47.4	64.0	46.3
Switzerland	21.3	39.1	21.5	38.6	21.5	36.2
Turkey	0.0	0.0	0.0	0.0	1.8	1.6
U.K.	51.8	18.4	77.0[2]	28.1	75.0[2]	25.9
U.S.A.	414.0	16.6	562.0	19.8	606.0	18.7
OECD Total	1,238.2	21.8	1,545.8	24.3	1,763.3	24.5

[1]Based on a 1986 annual survey of member countries by the Organisation for Economic Co-operation and Development (OECD), Nuclear Energy Agency (NEA). Figures for 1986 are provisional.
[2]OECD NEA estimate.
[3]For fiscal year.

Source: OECD Nuclear Energy Agency, *Summary of Nuclear Power and Fuel Cycle Data in OECD Member Countries*, April 1987.

WORLD NUCLEAR ELECTRICAL CAPACITY AND GENERATION, CURRENT AND PROJECTED

	1985 Nuclear	1985 % of World Total	1990 Nuclear	1990 % of World Total	1995 Nuclear	1995 % of World Total	2000 Nuclear	2000 % of World Total
Capacity (Thousand MWe)	250	11	352- 378	12-13	407- 481	12-13	483- 619	13-14
Generation (Billion kwh)	1,402	15	2,075-2,229	18-19	2,538-2,997	19-20	3,040-3,907	19-22

Note: Forecast figures are low and high points of projected range.

Source: International Atomic Energy Agency, *Energy, Electricity and Nuclear Power Estimates for the Period up to 2000*, Reference Data Series No. 1, August 1986 Edition, Tables 3 and 4.

WORLD NUCLEAR POWER REACTORS BY TYPE

Status as of December 31, 1986

Type Name	Operational	Construction
Advanced Gas-Cooled, Graphite-Moderated Reactor	10	4
Boiling Light-Water-Cooled and Moderated Reactor	83	12
Fast Breeder Reactor	7	2
Gas-Cooled, Graphite-Moderated Reactor	33	
High-Temperature Gas-Cooled, Graphite-Moderated Reactor	3	
Heavy-Water-Moderated, Boiling Light-Water-Cooled Reactor	1	1
Light-Water-Cooled, Graphite-Moderated Reactor	26	7
Pressurized Heavy-Water-Moderated and Cooled Reactor	26	13
Pressurized Light-Water-Moderated and Cooled Reactor	207	94
Steam-Generating Heavy-Water Reactor	1	
Other		
Totals	397	133

Source: International Atomic Energy Agency, *Power Reactors in the World*, April 1987, Table 21.

WORLD NUCLEAR POWER AT THE END OF 1986

Country	Reactors In Operation		Reactors Under Construction		Nuclear Electricity Supplied in 1986		
	No. of Units	Total MWe	No. of Units	Total MWe	Billion kwh	% of Total	Rank By Nuclear %
Argentina	2	935	1	692	5.4*	11.3*	18
Belgium	8	5,486			37.1	67.0	2
Brazil	1	626	1	1,245	0.1	0.1	26
Bulgaria	4	1,632	2	1,906	11.2	30.0	8
Canada	18	11,249	5	4,361	67.2	14.7	16
China			1	288			
Cuba			2	816			
Czechoslovakia	7	2,799	9	5,508	16.2*	21.0*	12
Finland	4	2,310			18.0	38.4	7
France	49	44,693	14	17,809	241.4	69.8	1
East Germany	5	1,694	6	3,432	12.2*	11.6*	17
West Germany	21	18,947	4	4,052	112.1	29.4	9
Hungary	3	1,235	1	410	7.0	18.3	14
India	6	1,154	4	880	4.5	2.7*	24
Iran			2	2,400			
Italy	3	1,273	3	1,999	8.2	4.5	23
Japan	35	25,821	10	8,431	166.5	24.7	11
Korea (South)	7	5,380	2	1,800	26.6	43.6	5
Mexico			2	1,308			
Netherlands	2	507			4.0	6.2	21
Pakistan	1	125			0.5	1.8*	25
Poland			2	880			
Romania			3	1,980			
South Africa	2	1,842			8.8	6.8	20
Spain	8	5,599	2	1,920	35.9	29.4	10
Sweden	12	9,455			67.0	50.3	3
Switzerland	5	2,932			21.3	39.2	6
Taiwan	6	4,918			25.8*	43.8*	4
United Kingdom	38	10,222	4	2,520	51.8	18.4	13
USA	99	84,592	21	23,301	414.0	16.6	15
USSR	50	27,657	32	29,910	148.0*	10.0*	19
Yugoslavia	1	632			3.8	5.4	22
Total	397	273,715	133	117,848	1,514.6		

*IAEA Estimate

Source: International Atomic Energy Agency, *Power Reactors in the World*, Reference Data Series Number 2, April 1987, Table 7.

WORLD NUCLEAR POWER REACTORS
Average Construction Time Span (in months)

Country	Operating and shut down reactors (initial year of operation)															
	1955 to 1959		1960 to 1964		1965 to 1969		1970 to 1974		1975 to 1979		1980 to 1984		1985		1986	
	Number/	Months	Number/	Months	Number/	Months	Number/	Months	Number/	Months	Number/	Months	Number/	Months	Number/	Months
Argentina							1	69			1	108				
Belgium			1	59			1	61	2	57	2	89	2	83		
Brazil											1	131				
Bulgaria							1	51	1	66	2	95				
Canada			1	48	1	83	5	71	4	69	7	98			2	110
Czechoslovakia							1	172	1	56	2	82	2	92	2	95
Finland									2	62	2	77				
France	1	28	2	58	5	67	3	59	6	62	27	65	4	75	6	83
East Germany					1	76	2	51	2	72						
West Germany			1	35	6	53	4	58	7	69	6	96	1	174	2	100
Hungary											2	111			1	83
India					2	54	1	95			2	155	1	172		
Italy			3	48					1	95						
Japan			1	37	2	57	8	44	12	60	9	50	2	61	2	61
Korea (South)									1	67	2	70	2	68	2	67
Netherlands					1	41	1	48								
Pakistan							1	62								
South Africa											1	93	1	108		
Spain					1	49	2	53			4	109	1	127		
Sweden			1	77			4	59	2	51	4	89	2	66		
Switzerland					1	46	2	49	1	62	1	124				
Taiwan									2	63	3	70	1	72		
United Kingdom	7	38	9	68	11	68	2	91	5	105	5	179	1	242		
USA			8	45	9	63	37	63	22	87	19	126	8	131	6	147
USSR	2	56	6	78	4	57	8	63	9	77	16	97	6	102		
Yugoslavia											1	80				
Totals	10	41	33	59	44	62	84	62	80	74	119	94	34	106	23	101

Source: *Power Reactors in the World*, Reference Data Series Number 2, International Atomic Energy Agency, April 1987, Table 16.
Note: Construction time is measured from first pouring of concrete to grid connection.
Figures represent the average construction time in months for the number of reactors beginning operation in the indicated time intervals.